

**DESCRIPTION**

<b>Source</b>	Human embryonic kidney cell, HEK293-derived human E-Cadherin protein		
	Human ECAD (Asp 155-Ile 707) Accession # P12830.3	GGIEGRMD	Human IgG <sub>1</sub> (Pro100-Lys330)
	N-terminus		C-terminus
<b>N-terminal Sequence Analysis</b>	Asp155		
<b>Structure / Form</b>	Disulfide-linked homodimer		
<b>Predicted Molecular Mass</b>	87 kDa		

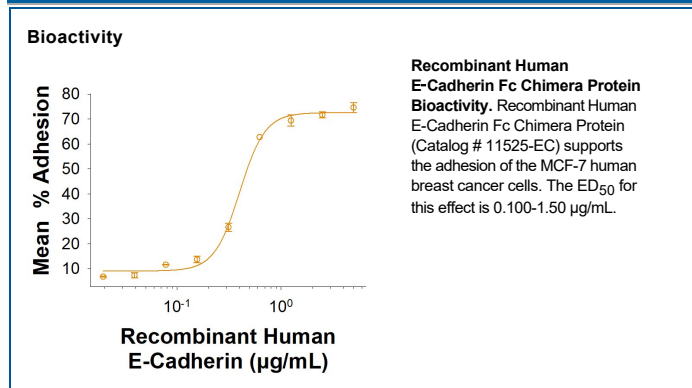
**SPECIFICATIONS**

<b>SDS-PAGE</b>	100-114 kDa, under reducing conditions.
<b>Activity</b>	Measured by the ability of the immobilized protein to support the adhesion of the MCF-7 human breast cancer cells. The ED <sub>50</sub> for this effect is 0.100-1.50 µg/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the protein by the LAL method.
<b>Purity</b>	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 500 µg/mL in PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**



**BACKGROUND**

E-Cadherin/Cadherin-1, also known as Uvomorulin in the mouse and rat, is a 120 kDa member of the Cadherin family of cell surface glycoproteins that mediate cell adhesion (1). Human E-Cadherin shares 81% amino acid sequence identity with the rat and mouse proteins (2). It is a single-pass transmembrane protein that mediates calcium-dependent epithelial cell adhesion. E-Cadherin has five extracellular EC domains that form homophilic cis-clusters between adjacent epithelial cells and trans-clusters within the same cell. E-Cadherin clusters are critical components of adherens junctions between epithelial cells and act in the formation and maintenance of the epithelial cell barrier (3, 4). The intracellular domain of E-Cadherin binds to the Catenin cytoskeletal complex, which includes p120 Catenin, beta-Catenin, alpha-Catenin, and Vinculin. E-Cadherin expression is critical for epithelial tissue homeostasis. Decreased E-Cadherin is associated with physiological and pathological epithelial-to-mesenchymal transition and cell migration, and E-Cadherin loss contributes to cancer metastasis (5). The extracellular E-Cadherin N-terminal domain can be cleaved by several proteases and is released as a soluble factor that enhances cancer cell motility and EGFR-dependent survival and proliferation (6).

**References:**

1. Gumbiner, B.M. (2005) *Nat. Rev. Mol. Cell Biol.* **6**:622.
2. Bussemakers, M.J. *et al.* (1993) *Mol. Biol. Rep.* **17**:123.
3. Guillot, C. and T. Lecuit (2013) *Science* **340**:1185.
4. Tian, X. *et al.* (2011) *J. Biomed. Biotechnol.* **2011**:567305.
5. Stemmler, M.P. (2008) *Mol. Biosyst.* **4**:835.
6. David, J.M. and A.K. Rajasekaran (2012) *Cancer Res.* **72**:2917.